

## **REMARKS**

This application contains claims 1-42. Claims 16-18 and 34-36 have been allowed. Claims 1-15, 19-33, and 37-42 have been rejected. Therefore, Claims 1-42 are pending in the Application. Reconsideration of the application based on arguments submitted below is respectfully requested.

### **Claim Rejections - 35 U.S.C. § 102(b)**

Claims 1-3, 5-7, 10-11, 19-20, 23-25, and 28-29 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Ikeda, et al (U.S. Patent No. 5,598,887). Reconsideration of the rejection over Ikeda et al., is respectfully requested for the following reasons:

Applicant's invention is limited to one of a cooling mode operation, a dehumidification mode operation, and a heating mode operation. Ikeda's invention is an air conditioning system that can be operated in one of five modes, where each of the five modes (except heating) is comprised of multiple functions..."a cooling/defrosting mode, a drying/defrosting mode, a dehumidifying/heating mode (parallel), a dehumidifying/heating mode (single), and a heating mode." (See Column 6, lines 40-44.) Ikeda's invention is not designed to dehumidify only, or even to dehumidify/cool, which are the primary objectives of Applicant's invention.

Applicant's invention is designed to be able to cool/dry and defrost the windshield of a car, and to remove the moisture from the windshield of a car (dehumidify it) while heating. Applicant's invention is designed to one of cool, dehumidify, and heat interior air.

Ikeda's modes are selected by a combination of changing over the refrigerant cycles, by using the four-way valve, using ON-OFF valves (Column 6, lines 43-48), and by adjusting the discharge ability of the compressor in conjunction with modulating a damper (Column 7, lines 17-21, for example).

Applicant's invention does not require a four-way valve, and does not require adjusting the discharge ability of the compressor in conjunction with modulating a damper. Applicant's design is much simpler, less likely to require servicing, and will efficiently operate as designed. For Ikeda's invention to efficiently, or even effectively, operate with compressor discharge adjustments and a modulating damper, refrigerant charges would have to be adjusted and expansion device sizes would have to be adjusted.

In various of Ikeda's operational modes where two interior heat exchangers are utilized, the refrigerant flow is divided up. (For example, see Column 7, lines 3-5 and lines 9-12, and see Column 7, lines 34 -41). Applicant's independent testing has shown that the division of refrigerant flow, absent identically sized heat exchangers, and/or absent identically sized expansion devices, and/or exactly horizontal refrigerant flow distributors, and/or vertically oriented distributors, (none of which is claimed or shown by Ikeda) will not be efficient, or even effectively, operate. Applicant's refrigerant flow is not divided up.

There are three primary instances where Ikeda shows the use of two interior air handlers. One does not even use an exterior heat exchanger, which is

mandatory in Applicant's inventions. (For example, see Column 7, lines 1-4, where the valves to the exterior heat exchanger of Ikeda are closed).

In the second instance, the refrigerant discharge from the compressor is split between the exterior heat exchanger and the second interior heat exchanger before the refrigerant fluid from both exchangers is mixed in a receiver and sent to a first interior air handler (as more fully described in Column 6, line 66 through Column 7, line 25), which, as aforesaid, is inefficient, and is potentially ineffective, as shown. Applicant's inventions do not split up the compressor refrigerant discharge/supply gas, and do not mix refrigerant from an exterior and interior heat exchanger in a receiver to be sent to another interior air handler.

In the third instance, Ikeda attempts to provide heat and to dehumidify at the same time. This is counterproductive in structural interior air space. When heat is needed in a home or business, there is no need to simultaneously operate a system in the cooling/dehumidifying mode in an effort to remove humidity from a car windshield. Operating a system in both the heating and cooling mode simultaneously is horribly inefficient for the heating of interior structural air, and would virtually never be done (See Column 7, lines 25-51).

The fact that Ikeda shows two interior heat exchangers, expansion valves, check valves, and a circuit in operational modes designed for cars, does not necessarily make the Applicant's invention obvious. In fact, Applicant's design is simpler than Ikeda's, will work, does not require the division of the refrigerant flow, and is designed for operation in only one (not multiple) mode of cooling,

dehumidification, and heating at a time, so as to maximize system operational efficiencies and so as to minimize maintenance/repair work. The maximizing of system operational efficiencies and the minimizing of system operational maintenance/repair work are of significant importance in any system designed to condition structural interior air space. Applicant's subject inventions have never been known to have been claimed or used since the beginning of the refrigeration industry.

For the foregoing reasons, Applicant respectfully submits that the rejection of Claims 1-3, 5-7, 10-11, 19-20, 23-25, and 28-29 under 35 U.S.C. § 102(b) should be withdrawn.

Claim Rejections - 35 U.S.C. § 103

Claims 13-15 and 31-33 have been rejected under 35 U.S.C. § 102(b) as being anticipated or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Ikeda, et al. Claim 21 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ikeda et al.

Claims 4, 8-9, 12, 22, 26-27, 30, 37 and 38-42 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ikeda et al., in view of Haas et al (U.S. Patent No. 4,182,133).

See comments above regarding differences between Applicant's invention and Ikeda.

Allowable Subject Matter

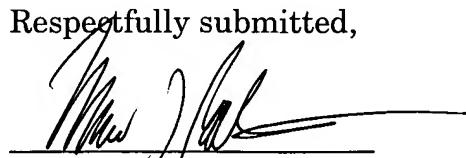
Claims 16-18 and 34-36 have been allowed.

Applicant has commented on some of the distinctions between the cited references and the claims to facilitate a better understanding of the present invention. This discussion is not exhaustive of the facets of the invention, and Applicant hereby reserves the right to present additional distinctions as appropriate. Furthermore, while these remarks may employ shortened, more specific, or variant descriptions of some of the claim language, Applicant respectfully notes that these remarks are not to be used to create implied limitations in the claims and only the actual wording of the claims should be considered against these references.

Pursuant to 37 C.F.R. § 1.136(a), Applicant petitions the Commissioner to extend the time for responding to the December 7, 2005, Office Action for 3 months from March 7, 2006, to June 7, 2006. Applicant encloses herewith a check in the amount of \$510.00 made payable to the Director of the USPTO for the petition fee.

The Commissioner is authorized to charge any deficiency or credit any overpayment associated with the filing of this Response to Deposit Account 23-0035.

Respectfully submitted,



Mark J. Patterson  
Registration No. 30,412  
WADDEY & PATTERSON  
Customer No. 23456

ATTORNEY FOR APPLICANT

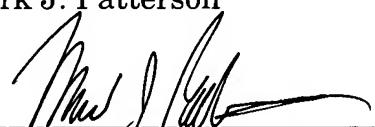
## CERTIFICATE OF FIRST CLASS MAILING

I hereby certify that this Response in Application Serial No.10/815,530 having a filing date of April 1, 2004 and a check in the amount of \$510.00 are being deposited with the United States Postal Service as first class mail in an envelope addressed to:

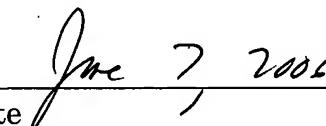
Mail Stop Amendment  
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Alexandria, VA 22313-1450

on June 7, 2006.

Mark J. Patterson

  
Signature  
Registration Number 30,412

Date

  
June 7, 2006